



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/517,440

07/28/2005

Ross Richard Nilson

13276/1

2436

23838 7590 07/17/2008

KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER

LE, TOAN M

ART UNIT

PAPER NUMBER

2863

MAIL DATE

DELIVERY MODE

07/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,440	Applicant(s) NILSON ET AL.	
	Examiner TOAN M. LE	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 39-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election without traverse of Group II, Claims 20-38 in the reply filed on 5/9/08 is acknowledged.

Abstract

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is not limited to a single paragraph within the range of 50 to 150 words.

Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 25 and 28-29 are objected to because of the following informalities:

Claim 25 is objected for not being referring to which previous claim.

Claim 28, line 3, "voltage," should read -voltage.-.

Claim 29, line 4, "volume;" should read -volume.-.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For instance, it is not clearly pointed out how functions are realized within single components, or what the functions are.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-33, 35, and 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Robar et al. (US Patent No. 4,010,715).

Referring to claim 20, Robar et al. disclose a method for measurement of a parameter of a fluid comprising the steps of:

measuring a parameter determined by a fluid by sensing through a containment wall made of electrically insulating material (Figure 2; col. 3, lines 1-38); and

improving the measurement sensitivity by at least partially canceling the effect of the dielectric properties of the containment wall (col. 3, lines 27-38; col. 4, lines 3-34).

As to claim 21, Robar et al. disclose a method for measurement of a parameter of a fluid wherein the parameter to be measured is influenced by solutes or solvents that give rise to conductive properties (col. 4, lines 36-44).

Referring to claim 22, Robar et al. disclose a method for measurement of a parameter of a fluid where the fluid concerned is constrained to a form with relatively high surface to sectional

Art Unit: 2863

area ratio within a containment wall made of electrically insulating material (col. 3, lines 27-38; col. 4, lines 3-34).

As to claim 23, Robar et al. disclose a method for measurement of a parameter of a fluid wherein a sensor is constructed from electrodes distributed along the length of the constrained form at least partly surrounding the fluid outside the containment walls (Figure 2; col. 3, lines 17-38).

Referring to claim 24, Robar et al. disclose a method for measurement of a parameter of a fluid wherein a high frequency voltage waveform is coupled to the sensor electrodes (col. 4, lines 51-58; col. 5, lines 1-9; col. 6, lines 25-35).

As to claim 25, Robar et al. disclose a method for measurement of a parameter of a fluid wherein a current phase or amplitude response is used to determine a measurement (col. 3, lines 27-38).

Referring to claim 26, Robar et al. disclose a method for measurement of a parameter of a fluid wherein the phasor addition of another signal cancels out at least part of the response due to the capacitance effect from the containment wall dielectric (col. 5, lines 10-16).

As to claim 27, Robar et al. disclose a method for measurement of a parameter of a fluid wherein a phase detector or amplitude detector is used to produce an output used to directly or indirectly represent conductivity and/or mass and thereby flow rate and volume (col. 3, lines 17-38).

Referring to claim 28, Robar et al. disclose a method for measurement of a parameter of a fluid wherein voltage is used in place of current and current is used in place of voltage (col. 3, lines 64-68 to col. 4, lines 1-2).

As to claim 29, Robar et al. disclose a method for measurement of a parameter of a fluid wherein the measurement of the parameter of the fluid is used to directly or indirectly represent conductivity and/or mass and thereby flow rate and volume (col. 3, lines 17-38).

Referring to claim 30, Robar et al. disclose a method for measurement of a parameter of a fluid wherein the measurement of the parameter of the fluid is manipulated with algorithms to filter and/or combine with other measurements and/or qualify by analyzing time trends to improved reliability or accuracy of the measurement itself or what it is used to directly or indirectly represent (col. 3, lines 17-38).

As to claim 31, Robar et al. disclose an apparatus for measuring a fluid comprising:
a sensor arrangement for measuring a parameter determined by a fluid through
containment walls made of an electrically insulating material (Figure 2; col. 3, lines 1-38);
a signal conditioning circuit that converts the measured parameter into an electrical form
(col. 3, lines 27-38; col. 4, lines 3-34); and
a signal conditioning circuit that improves the measurement sensitivity by at least
partially cancelling the undesirable effect of the dielectric properties of the containment wall
(col. 3, lines 27-38; col. 4, lines 3-34).

Referring to claim 32, Robar et al. disclose an apparatus for measuring a fluid using a method for measurement of a parameter of a fluid comprising the steps of:

measuring a parameter determined by a fluid by sensing through a containment wall made of electrically insulating material (col. 3, lines 1-38); and

improving the measurement sensitivity by at least partially cancelling the effect of the dielectric properties of the containment wall (col. 3, lines 27-38; col. 4, lines 3-34).

As to claim 33, Robar et al. disclose an apparatus for measuring a fluid wherein an electrode coupling device with high common mode impedance is used in order to reduce effects of stray capacitance to the fluid and surrounding environment (col. 4, lines 45-50).

Referring to claim 35, Robar et al. disclose an apparatus for measuring a fluid wherein phase or amplitude detection involves converting current or voltage waveforms into square or rectangular waveforms with certain timing relationships (col. 6, lines 25-67).

As to claim 37, Robar et al. disclose an apparatus for measuring a fluid wherein a signal conditioning circuit provides an output used to directly or indirectly represent conductivity and/or mass and thereby flow rate and volume (col. 3, lines 17-38).

Referring to claim 38, Robar et al. disclose an apparatus for measuring a fluid wherein outputs from a signal conditioning circuit determine measurements that are acted on by an algorithm to filter and/or combine with other measurements and/or qualify by analyzing time trends to improved reliability or accuracy of the measurement itself or what it is used to directly or indirectly represent (col. 3, lines 17-38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robar et al. as applied to claims 31 and 35 above, and further in view of Brayer (US Patent No. 4,348,984).

Referring to claim 36, Robar et al. do not teach conversion to square or rectangular waveforms involves a comparator with a feedback loop acting on the duty cycle on the comparator output to adjust the comparator input.

Brayer discloses an apparatus for measuring a fluid comprising:

a sensor arrangement for measuring a parameter determined by a fluid through containment walls made of an electrically insulating material (Figure 1; Abstract);

a signal conditioning circuit that converts the measured parameter into an electrical form (Figure 2; col. 2, lines 44-60); and

a signal conditioning circuit that improves the measurement sensitivity by at least partially cancelling the undesirable effect of the dielectric properties of the containment wall (col. 2, lines 44-60; col. 3, lines 9-17),

wherein conversion to square or rectangular waveforms involves a comparator with a feedback loop acting on the duty cycle on the comparator output to adjust the comparator input (Figure 2).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the teaching of Brayer into the reference of Robar et al. to provide a corrected indication of the electrical conductivity of the fluid.

Allowable Subject Matter

Claim 34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOAN M. LE whose telephone number is (571)272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Toan Le

/Michael P. Nghiem/
Primary Examiner, GAU 2863

July 12, 2008